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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,807	05/14/2001	Fujio Tanaka	1217-010754	8883

7590 10/03/2003

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EXAMINER

CINTINS, IVARS C

ART UNIT PAPER NUMBER

1724

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/854,807

Applicant(s)

TANAKA ET AL.

Examiner

Ivars C. Cintins

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wendel (U.S. Patent No. 3,975,267) in view of Kozak et al. (U.S. Patent No. 5,393,416), further in view of Kunin et al. (U.S. Patent No. 6,340,712). Wendel discloses regenerating an ion exchange resin with a downward flow of regenerant solution (col. 4, line 32) and subsequently rinsing this resin (col. 4, lines 29). This reference further teaches (see col. 4, line 30; and col. 6, lines 57-61) that the regenerant must be passed through the resin at least twice. Accordingly, this primary reference discloses the claimed invention with the exception of using ultra-pure water to rinse the regenerated resin in an upward direction, and the space velocity of regenerant and water (claim 2). Kozak et al. teaches (see col. 17, lines 19-29) rinsing an ion exchange resin column with deionized water in an upward direction; and it would have been obvious to one of ordinary skill in the art at the time the invention was made to rinse the regenerated resin of Wendel in an upward direction, in order to remove any residual regenerant in this resin. Also, Kunin et al. teaches rinsing an ion exchange resin with ultra-pure water (col. 6, lines 2-3); and it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the ultra-pure water of Kunin et al. to rinse the regenerated resins of the modified primary reference, in order to minimize contamination of these resins. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to treat the resin of the thus

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modified primary reference with the regenerant and ultra-pure water at the space velocities recited in claim 2, in order to ensure adequate contact between the resin and these fluids.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wendel, Kozak et al. and Kunin et al. as applied above, and further in view of Saieva (U.S. Patent No. 4,652,352). The modified primary reference discloses the claimed invention with the exception of the specific material from which the processing equipment is constructed. Saieva discloses (see col. 5, line 33) employing an ion exchange resin column constructed from a vinyl chloride resin (i.e. PVC); and it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the column and other parts of the modified primary reference system from such a vinyl chloride resin, in order to obtain the advantages associated with this material (e.g. non-corrosive environment, lower construction costs, etc.) for the system of the modified primary reference.

Applicant's arguments filed July 21, 2003 have been noted and carefully considered but no longer appear to be relevant in view of the new grounds of rejection.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (703) 308-3840. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Blaine Copenheaver, can be reached at (703) 308-1261. The fax phone number for this art unit is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.



**Ivars C. Cintins**  
**Primary Examiner**  
**Art Unit 1724**

I. Cintins